

Tomato brown rugose fruit virus

Tomato brown rugose fruit virus (ToBRFV) is a highly infectious and contact transmissible disease and is a serious threat to Australia's vegetable industry. ToBRFV does not pose any risk to human health.

ToBRFV is a plant disease that affects tomato, capsicum and chilli causing yellow and brown spots on fruit, affecting marketability. Leaves of infected plants can show yellowing, mosaic patterns, mottling and occasionally leaf narrowing. The virus is not present in Queensland.

If suspected, please report immediately to Biosecurity Queensland on 13 25 23.

Species affected

Tomato (*Solanum lycopersicum*), capsicum and chilli (*Capsicum* species).

Solanaceous weeds such as nightshades can also become infected.

Eggplant and potato are not considered to be ToBRFV hosts.

Where it is found

ToBRFV was first reported in 2014 on tomatoes in Israel. It has since been reported in Europe, the Middle East, China, Mexico and the USA (California). The international distribution of ToBRFV has been attributed to the global movement of seed.

In August 2024, ToBRFV was detected in South Australia. This is the first detection of the plant disease in Australia.

What to look for

ToBRFV symptoms in fruit include deformation, wrinkled (rugose) skin or yellow, brown, green blotches or stripes.

ToBRFV symptoms in leaves include reduction in size, deformation, mosaic or mottling patterns. Stems can also be discoloured.



*Tomato brown rugose fruit virus on fruit
Photo courtesy of Aviv Dombrovsky, Agricultural Research Organization, Volcani Center*



*ToBRFV symptoms on tomato leaf.
Photo courtesy of Luria et al., Agricultural Research Organization, Volcani Center*



*ToBRFV symptoms on capsicum fruit and leaves.
Photo courtesy of Raed Alkowni, EPPO Global Database.*



What can it be confused with

Symptoms of ToBRFV may be confused with the tospoviruses, tomato spotted wilt virus and capsicum chlorosis virus.

For symptoms of tomato spotted wilt virus, visit business.qld.gov.au and search for tomato spotted wilt virus.

Uneven tomato fruit ripening can be a symptom of whitefly feeding at high numbers.

How it spreads

ToBRFV is easily spread by:

- movement of infected plant material such as, fruit, plant debris (crop residues), seeds and whole plants, including seedlings
- plant to plant contact
- irrigation water
- movement of infected soil
- contact with contaminated surfaces, tools, clothing or equipment.

The virus can survive for extended periods of time in seeds, plant debris and soil.

Similarly, ToBRFV can remain infectious on contaminated surfaces for long periods of time.

Are there any treatments

Plants infected with ToBRFV cannot be cured. There is no effective treatment to remove the disease from seeds or plant material. Hot water is not an effective treatment for ToBRFV.

What can you do

Practice safe biosecurity measures and report anything suspicious in your plants, crops or fruit immediately to ensure early detection.

- Source clean seed and propagation material from reputable suppliers.
- Implement thorough hygiene practices such as disinfecting tools, propagating equipment and vehicles.
- Ensure staff and visitors are trained and adhere to your biosecurity requirements.
- Monitor crops regularly, isolate suspect plants and report anything suspicious immediately to ensure early detection.

Remove wild tomato plants and other weeds such as nightshade that could act as reservoirs for the virus.

Minimise contact with suspected infected plant material, as this could spread the disease further.

To meet Queensland's general biosecurity obligation, you must take all reasonable and practical steps to minimise the risks of spread of the disease.

Report suspect ToBRFV by calling the Exotic Plant Pest Hotline on 1800 084 881 or Biosecurity Queensland on 13 25 23, or report online at daf.qld.gov.au via the 'Report a biosecurity pest or disease' web page.

Early detection and reporting are key elements to controlling ToBRFV.

Further information

Contact Biosecurity Queensland on 13 25 23 or visit www.biosecurity.qld.gov.au.

For current information, visit www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/biosecurity/plants/priority-pest-disease/tomato-brown-rugose-fruit-virus.

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